

**Notice of Allowability**

Application No.

09/918,007

Applicant(s)

KUBOTA, KAZUNOBU

Examiner

Devona E. Faulk

Art Unit

2615

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/16/2007.
2. ☒ The allowed claim(s) is/are 1,2,12-14,24-26 and 36-39.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                            |                                                                                       |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|                                                                                                            | 9. <input type="checkbox"/> Other _____                                               |

**DETAILED ACTION**

**Response to Remarks**

1. The applicant amended the independent claims and the examiner agrees that the prior art applied in the previous rejection does not disclose the newly recited claim language.
2. The applicant agreed to an examiner's amendment to place the claims in allowable form.
3. Claims 3-11, and 15-23 are cancelled.

**EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Darren M. Simon (Reg. No. 47,9466) on 9/25/2007.

The claims are to be amended as follows:

**Claim 1 line 8:** after "time and", insert - - when - - .

**Claim 1, line 10:** after "information" , insert - - of at least one of position and movement - - .

**Claim 13, line 8:** after "time and", insert - - when - - .

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**Claim 13, line 10:** after "information" , insert - - of at least one of position and movement - -.

**Claim 25, lines 6-7:** after "prescribed period of time", delete " and an accumulated value of the plurality of information changes exceeds a threshold value".

**Claim 25, line 9:** after "information" , insert - - of at least one of position and movement - -.

**Claim 25, line 11:** after "changes", insert - - when an accumulated value of the plurality of information changes exceeds a threshold value - -.

**Claim 37 line 10:** after " time period and", insert - - when - - .

**Claim 37, line 12:** after "information" , insert - - of at least one of position and movement - -.

**Claim 38, line 11:** after " time period and", insert - - when - - .

**Claim 38, line 13:** after "information" , insert - - of at least one of position and movement - -.

**Claim 39, line 8:** after " time period and", insert - - when - - .

**Claim 39, line 13:** after "information" , insert - - of at least one of position and movement - -.

5. Claims 1,2,12-14,24-26,36-39 are allowed.

The following is an examiner's statement of reasons for allowance: Regarding claims 1,13,25,36-39 , prior art the applicant's admitted prior art (AAPA, pages 1-4, Description of Related Art; Figure 4) discloses an audio signal processing method (Pages 1-4, Description of Related Art; Figure 4) that performs virtual acoustic image localization processing of digital audio signals based on at least one type of information among position information, movement information, and localization information of an acoustic image (pages 1-3, Description of Related Art; Figure 4), the method comprising the steps of: when there are a plurality of changes in said information within a prescribed period of time, generating a modified information (1, Figure 4; page 3, Description of Related Art; AAPA, Figure 7 teaches of a plurality of changes (position, movement) in what is implicitly some time frame. The applicant's admitted prior art teaches that localization processing of a plurality of virtual acoustic images is performed within the audio processing unit each time there is a change in the position or movement information and that the position and movement information is used to perform virtual acoustic image localization. Each time denotes a given time unit. For a given time unit one change in position or movement generates a single modified information) ; and performing virtual acoustic image localization processing for said audio signals based on said generated information change (pages 1-3, Description of Related Art). Prior art Fouad (US 6,728,664) discloses a single change based on a plurality of changes (column 9, lines 8-12; sound node moves a sound to a location based on the

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value of three input parameters to the node). Prior art Sasson (US 4,695,874).discloses a time period that is an integral multiple of the period of sampling frequency (column 6, lines 9-12).

The prior art or combination thereof fails to disclose or make obvious the invention as a whole, in particular, when there are a plurality of changes in said information within a prescribed period of time and when an accumulated value of the plurality of changes exceeds a threshold, generating single modified information of at least one of position and movement at the end of said prescribed period of times based on the plurality of changes in said information.

Therefore, the prior art or combination thereof fails to disclose or make obvious an audio signal processing method that performs virtual acoustic image localization, an audio apparatus , and an audio signal processing apparatus as claimed.

Claims 2,12,14,24,26 are allowed due to dependency on claims 1,13 and 25.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEF

  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
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